Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 3: *Advanced Technology Development (ATD)*				R-1 ITEM NOMENCLATURE PE 0603607A: *JOINT SERVICE SMALL ARMS PROGRAM*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	8.236	7.674	6.095	-	6.095	6.235	7.915	6.500	7.173	Continuing	Continuing
627: *JT SVC SA PROG (JSSAP)*	8.236	7.674	6.095	-	6.095	6.235	7.915	6.500	7.173	Continuing	Continuing

Note

FY 13 funding realigned to higher priority efforts.

A. Mission Description and Budget Item Justification

This program element (PE) matures and demonstrates advanced technologies that integrate into individual and crew served weapons for all Services. All work is done under the Joint Service Small Arms Program (JSSAP) (Project 627) and are based upon the Joint Service Small Arms Master Plan (JSSAMP) and the Joint Capabilities Integration Development System's Small Arms Analyses. This PE also supports the maturation and demonstration of Lightweight Small Arms Technologies (LSAT) which offers significantly reduced weight over the currently fielded weapons and ammunition .

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this PE is performed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny Arsenal, NJ.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	9.151	7.686	7.576	-	7.576
Current President's Budget	8.236	7.674	6.095	-	6.095
Total Adjustments	-0.915	-0.012	-1.481	-	-1.481
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.236	-			
• Adjustments to Budget Years	-	-	-1.481	-	-1.481
• Other Adjustments 1	-0.679	-0.012	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603607A: *JOINT SERVICE SMALL ARMS PROGRAM*	PROJECT 627: *JT SVC SA PROG (JSSAP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
627: *JT SVC SA PROG (JSSAP)*	8.236	7.674	6.095	-	6.095	6.235	7.915	6.500	7.173	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project matures and demonstrates advanced technologies that provide greater lethality, target acquisition, fire control, training effectiveness and range at a significantly reduced weight. These technologies lighten the Soldier's load, provide improved battlefield mobility, and reduce logistics burden while maintaining or improving current levels of performance.

Efforts in this program element support the Soldier Science and Technology portfolio.

Work in this PE is related to and fully integrated with the efforts funded in PE 0602623A (Joint Service Small Arms Program) and PE 0602624A (Weapons and Munitions Technology).

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work in this project is performed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny Arsenal, NJ.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Lightweight Small Arms Systems (LSAS)	6.482	-	-
Description: This effort demonstrates caseless and case telescoped ammunition technologies for specific weapon systems and missions with goals to reduce the weapon and ammo weight, and to reduce training and maintenance costs. Cased telescoped ammunition is a 100% polymer cylindrical shaped case, inside of which are the projectile (i.e., telescoped inward) and the propellant, with a standard mechanical primer located at the base. The caseless cartridge also uses a telescoped bullet arrangement. A specialized High Ignition Temperature Propellant (HITP) provides not only the propulsive energy, but also serves as the cartridge structure and exterior surface. ***FY 2011 Accomplishments:*** Took delivery of lightweight machine guns and cased telescoped ammunition to conduct TRL 6 demonstration of tech maturity and military utility; achieved TRL 6 for cased-telescoped ammunition fired from light machine guns; fabricated and evaluated riflescope demonstrator with adaptive zoom lens on lightweight machine gun; conducted TRL 5 demonstration of lightweight cased telescoped carbine.			
Title: Small Arms Technology Assessment and Effectiveness Modeling	1.754	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603607A: *JOINT SERVICE SMALL ARMS PROGRAM*	PROJECT 627: *JT SVC SA PROG (JSSAP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: This task addresses the application of technology component solutions to mitigate identified capability gaps in the JSSAP strategy. ***FY 2011 Accomplishments:*** Matured and optimized force-on-force simulations based on results of small arms demonstrations.			
Title: Small Arms Weapons and Fire Control Integration ***Description:*** The best breadboard concepts from the Advanced Fire Control Technology for Small Arms (0602623A/H21) will be integrated into lab demonstrators and evaluated on relevant current (M4, M16, M249, M240) and developmental small arms systems to optimize affordability, target acquisition, fire control, weight, and lethality. Project transitions to Project Manager Soldier Weapons (PM SW). ***FY 2012 Plans:*** Mature dynamic target tracking and range finding, as well as adaptive polymer zoom lens technologies; demonstrate power distribution/sourcing technologies in an integrated weapon and fire control prototype; mature and demonstrate integrated thermal management small arms weapon technologies such as graphite foam and heat pipes. ***FY 2013 Plans:*** Will mature and demonstrate improvements to target tracking and range determination component technologies and algorithms; integrate subcomponents into realistic fire control system envelope; use modeling and simulation to evaluate system level effectiveness; will use results to assist in selection of best systems.	-	3.841	2.519
Title: Small Arms Grenade Munitions Integration and Evaluation ***Description:*** The best breadboard concepts from the Advanced Lethality Armament Technology for Small Arms (0602623A/H21) project will be integrated into a 40mm ammunition prototype and evaluated on current (M203, M320, and M32 40mm grenade launchers) small arms systems to optimize affordability, effects and lethality. Project transitions to Project Manager Maneuver Ammunition Systems (PM MAS). ***FY 2012 Plans:*** Demonstrate advanced lethality concepts, including course correction, as well as enhanced fragmentation/directionality technologies; integrate and demonstrate recoil mitigation technologies. ***FY 2013 Plans:*** Will integrate alternate fuze detonation modes into the smaller modified MK550 fuze to improve initiation location and improve Probability of Incapacitation (P(I)) against threat personnel in defilade; integrate smart fuze and sensors into 40mm low velocity	-	3.833	3.576

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
grenades for demonstration; assess performance improvement results to assist in selection of best systems; transition fuze design improvements to PM-MAS.			
Accomplishments/Planned Programs Subtotals	8.236	7.674	6.095

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.